

D R A F T

24 March 1966

STAFF STUDY - IMAGERY EXPLOITATION MODULE CONCEPT STUDY

1. PROBLEM:

To provide the human imagery interpreter with equipment, accommodations and procedures in an environment that insures his optimum effectiveness by providing him with the best possible work station and all the tools, aids and support that he needs in forms optimized for his use.

2. FACTS BEARING ON THE PROBLEM:

a. The steadily increasing volume of reconnaissance imagery to be interpreted.

b. The improving quality of that imagery

c. The increasing use of unconventional types of reconnaissance imagery such as [REDACTED]

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d. The increasing requirements levied upon the interpreters for more and more information to be extracted from the higher quality imagery.

e. The limited number of qualified interpreters who often are inefficiently utilized. (Instead of spending most of their time in the primary tasks of interpreting and reporting they often are required to perform many collateral tasks which consume a disproportionate amount of their time and energy. Among these tasks are: administrative paperwork, performing minor logistics problems,

searching for and assimilating raw collateral intelligence, report editing and re-writing, etc.)

f. The limitations of the techniques customarily adopted in the past when an attempt was made to solve this type of problem - i.e. through trial-and-error experimentation. Under the pressure of ever-increasing work loads, off-the-shelf items and hastily developed techniques such as rear-projection viewers, stereo microscopes, new mensuration techniques, etc. have been tried empirically with varying degrees of success and improvement to the system.

3. DISCUSSION:

a. Overall, the basic concept or purpose in the creation of NPIC can be said to have been that of ensuring the most effective, timely and economic exploitation of photography for foreign intelligence relating to national security. In order to implement this purpose, NPIC has been authorized to engage in or sponsor, as appropriate, the development of specialized equipment for the intelligence exploitation of photography.

b. While the existing techniques for the exploitation of photography which have been developed through the years at NPIC do, undeniably get the job done, they are not necessarily the most "effective, timely and economical" exploitation techniques and procedures. The essence of the study program proposed by [REDACTED]

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[REDACTED] is to develop a concept for a highly automated system, which will accept larger volumes and increasing variety of better quality imagery, both conventional and unconventional,

correlate the inputs with the collateral data and extract the expanding detail of information required to produce timely intelligence reports. This proposed program clearly falls within the scope of NPIC's authorized field of development.

c. When the proposed study program has been carried out solid design criteria for imagery exploitation modules will have been established. NPIC will be prepared to pass on to Phase II of the program in which an experimental mock-up will be fabricated and a program of realistic imagery exploitation experiments will be conducted in the mock-up. The planners of NPIC will be able to commence a construction program under which as many imagery exploitation modules can be built as are needed secure in the knowledge that they have determined the real requirements for the modules through proper R&D procedures.

d. Selection of Contractor. In November of 1965 an R&D Objectives document was sent out to 14 companies asking all those interested to submit proposals. Seven proposals were received and a comprehensive review was undertaken by NPIC's technical personnel to determine which held the best promise for achieving NPIC's objectives. It was concluded that [REDACTED] proposal 25X1A was best for the following reasons:

1. Their broad, recent experience in related work.

[REDACTED] was prime contractor in the development of the SR-71 imagery exploitation set-up at Beale AFB for the Air Force. They also developed

the "IIC" and the Mobile Wing Recce-Tech system for RADG, and a very successful Electro-Optical Rectifier currently used by ACIC.

- 2.) Their know-how in just about every phase of the planned study effort.

Their proposal displays a great familiarity with DOD-type operational procedures, materials and outputs of image interpretation systems. They discussed, at least to some degree, just about every point mentioned in the RFP.

3. The caliber of the people proposed to head the program.

25X1A [REDACTED] the proposed program manager, and his boss [REDACTED] are felt, by people in P&DS 25X1A who know them, to be able engineers and managers with whom we should be able to get some good work done. The two proposed consultants for the program, [REDACTED] are men with 25X1A top-drawer reputations.

4. Their proposed price.

25X1A [REDACTED] quoted a price of [REDACTED] which 25X1A seems to be about right for what we had planned. Among other services, this figure will pay for about 3.2 man-years of engineering support.

4. CONCLUSIONS:

It is unlikely that the projected variety and volume of imagery inputs (especially in the light of the ever-increasing information-

packing density capabilities of the imagery) can be handled efficiently by the interpreters of NPIC in the near future if they continue using existing procedures and equipment. The need for a study effort which would investigate the concept of an imagery exploitation module which will maximize the efficiency of the human interpreters in his primary task of extracting and reporting intelligence from various types of imagery has been recognized for the past several years. It is therefore essential that this research program be initiated at the earliest possible date.

5. RECOMMENDATION:

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It is recommended that approval be granted to contract with

in FY-1966.